

Polaroid

Spectra Camera



N. JOHNSTON

This product is listed by Underwriters' Laboratories, Inc. (UL). As a condition of listing, UL requires that basic safety information be provided.

IMPORTANT SAFEGUARDS

AS WITH ANY BATTERY-OPERATED EQUIPMENT, OBSERVE THESE BASIC SAFETY PRECAUTIONS:

1. FOLLOW ALL OF THESE INSTRUCTIONS.
2. DO NOT USE THE CAMERA IF IT HAS BEEN DAMAGED, UNTIL IT HAS BEEN EXAMINED AT AN AUTHORIZED POLAROID SERVICE CENTER.
3. DO NOT DISASSEMBLE THE CAMERA. TO REDUCE THE RISK OF AN ELECTRICAL SHOCK, SERVICE OR REPAIR WORK MUST BE DONE ONLY BY AN AUTHORIZED POLAROID SERVICE CENTER. INCORRECT REASSEMBLY CAN CAUSE AN ELECTRICAL SHOCK WHEN THE CAMERA IS USED AGAIN. DO NOT IMMERSE THE CAMERA IN WATER OR OTHER FLUIDS.

PLEASE KEEP THESE INSTRUCTIONS

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The camera

(front and back views)

Sonar rangefinder
(sends out sound waves to measure the distance to your subject), p.9.

Film door release,
pp. 6,8.

Film door, p. 6.

Film exit slot

Quintic, three-element, 125mm lens

Self-timer indicator,
p. 16

Programmed flash,
p. 12.

Film shade (protects the picture from light as it exits the camera).

Photocell-silicon photodiodes (measures light from the scene and light from the flash, indoors and outdoors).

2

Hand strap (with adjustable tabs).

Release latch
(opens and closes the camera), p. 5.

Viewfinder

Neck strap connector
(see the attachment instructions that come with the neck strap).

Two-stage shutter button (press halfway to see the viewfinder display, press the rest of the way to take the picture. If you want to delay ejecting the picture, you can do so by holding the shutter button down).

Control panel, p. 4.

Tripod socket
(underneath the camera).

3

The control panel

Audio signal switch (slide it down when you want to turn off the warning tone, beeps, or chimes), pp. 8, 11, 16.

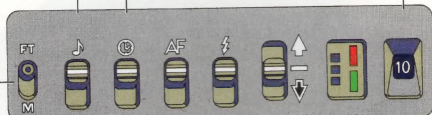
Feet or meters selector (slide it down using the tip of a ball-point pen, and the distance reading in the viewfinder will be in meters).

Sonar autofocus override (slide the switch down to turn off the autofocus system), p. 17.

Programmed flash override (slide the switch down to turn off the flash), p. 17.

Self-timer switch (slide it down to get into your picture), p. 16.

Picture counter (counts down to show how many pictures are left in the film pack).



Rapid-recharge indicators:

Red light (means the flash is charging).

Green light (means the flash is ready to fire and you can take a picture).

Exposure control (use it to lighten or darken a picture), p. 14.

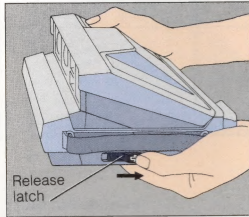
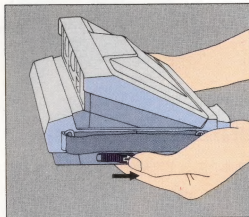
1 Open the camera

Place both hands under the camera as shown. Slide the release latch **back**. The camera will open automatically.

To close the camera

When you have finished using the camera, close it to protect the lens.

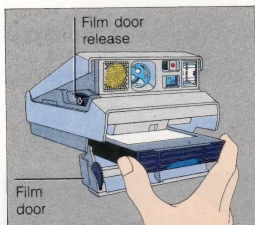
Hold the camera as shown. Slide the release latch **back**. Push **both** sides of the cover down until it locks.



2 Check the control panel switches

When you want the camera to be **fully automatic**, be sure all the switches are in a row.

3 Load the film



Use only Polaroid Spectra color film. Other Polaroid films cannot be used with this camera.

Push the film door release **down**. The film door will open.

Hold the film pack by its edges only and slide it all the way into the camera.

4 Position your subject

You can take the most pleasing pictures of people, **both indoors and outdoors**, when they are **3 to 5 feet** (.9m to 1.5m) away. The distance reading in the viewfinder will help you stay within this range.

Indoors: Your subject should be within the **2 to 15 foot** (.6m to 4.6m) flash range. For best results, your subject should also be near a light-colored background.

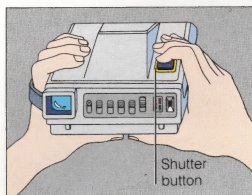
Outdoors: Your subject should be **at least 2 feet** (.6m) from the camera.

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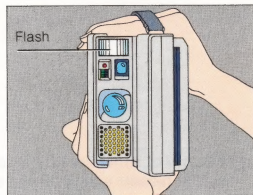
5 Take the picture

Slide your left hand through the hand strap and hold the camera as you would a pair of binoculars.

For horizontal pictures, hold the camera as shown in illustration (a). For vertical pictures, position the camera with the **flash on top** as shown in illustration (b) to get the best results.



a

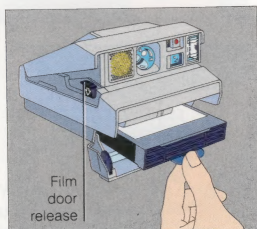


b

To remove an empty film pack

After you take the tenth picture, the picture counter sets to zero and three chimes sound to remind you to remove the empty film pack.

Push the film door release **down** to open the film door. Pull the blue tab to remove the film pack.



When the camera contains an empty film pack:

- You will hear **three chimes** when you open the camera.
- You will hear **three chimes** and then see a **flashing zero** in the viewfinder when you press and hold the shutter button **halfway**.

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The autofocus system

As you press the shutter button, your camera sends sound waves – within 10 thousandths of a second – to the central part of the scene (approximate area circled in white).



The sound waves are used to measure the distance to the person or object (in the central part of the scene) that is **closest to the camera**.

A built-in computer then uses this measurement to provide the correct lens setting, so **be sure that:**

- **The sound waves have a clear path to your subject.** If an object (candlestick, centerpiece, etc.) prevents the sound waves from reaching your subject, the lens will focus on that object, and your subject will not be clear and in focus.
- When photographing more than one person, **everyone is at the same distance from the camera.**
- When taking a picture through glass, turn off the autofocus system. See page 17.

The viewfinder displays

When you have a film pack in the camera and press the shutter button **halfway**, a display appears in the viewfinder to help you take the best possible picture.

When you see a **number in the viewfinder**, it tells you the distance to your subject (in feet or meters). This number will help you follow the distance recommendations throughout this book.

When you see a **green "good picture" symbol**:

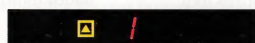


The conditions are right for taking a good picture. Press the shutter button **the rest of the way**.

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When you see a **flashing yellow "caution" symbol and hear a warning tone**, you should correct a problem before taking the picture. The distance reading will help you identify the problem. When you see:

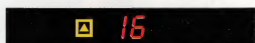
The number 1



Your subject is too close

Release the shutter button and stand **at least 2 feet** (.6m) from your subject.

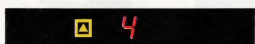
A number from 16 to 20



Your subject is beyond the flash range.

Release the shutter button and move closer to your subject to keep within the **2 to 15 foot** (.6m to 4.6m) flash range.

A number from 2 to 15



The flash is off. Slide the flash switch **up** to turn the flash back on.



Distance readings do not appear when your subject is beyond 20 feet (6.2m).

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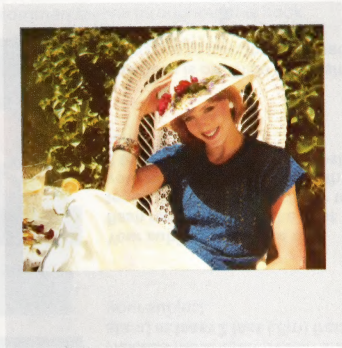
The programmed flash

Every time you take a picture, **indoors or outdoors**, your camera blends light from the scene with just enough flash to provide the right lighting for the best possible picture.

Here is an example of what this fill-flash system can do:



In this outdoor scene, photographed **without flash**, bright sunlight has created harsh facial shadows.



Your camera blends sunlight with just the right amount of flash to soften shadows and reveal facial details.

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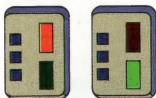
The recharge indicators

The Polaroid Spectra Camera features a rapid recharge flash with recharge times **usually less than a second**. The red light on the control panel will come on and the flash will automatically begin to charge every time you:

- Load film into the camera
- Press the shutter button halfway
- Take a picture
- Open the camera

When the green light comes on, the flash is ready to fire. The light will stay on for 20 to 30 seconds.

If you want to take a picture after the green light has gone off, lightly press and release the shutter button to turn the green light back on.



Flash range

Indoors.

Your subject should be **2 to 15 feet** (.6m to 4.6m) from the camera.

Outdoors.

Your subject should be **at least 2 feet** (.6m) away.

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The exposure control

Use the exposure control when you want to **retake** a picture to make it lighter or darker.

When retaking a picture to make it **lighter**
Slide the control **all the way up (a)**

When retaking a picture to make it **darker**:
Slide the control **all the way down (b)**

Any other midpoint adjustments will **not** affect your exposure.
The control must be adjusted **all the way** in either direction.

After you have finished taking the picture, do not forget to return the control to the **center position (c)**.



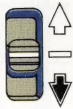
a

Lighten



b

Darken



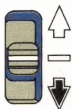
c

Center

Special situations

Pictures taken of people in highly reflective beach or snow scenes often turn out **too dark**. You may want to set the control **all the way up** to the **Lighten** setting (a) before taking this type of picture.

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Important

If the background of a **flash** picture is too dark but your subject is well illuminated (a), the background is too far away. Moving the control to the **Lighten** setting will not correct this problem, so be sure:

The exposure control is in the **center position**. Retake the picture, placing your subject near a background and keeping both within the **2 to 15 foot (.6m to 4.6m)** flash range (b).



- a The background is too far from the subject. b The background is close to the subject and both are within the flash range.

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The self-timer

The self-timer lets you get into your picture.

To use this feature, place the camera on a tripod or other steady support. If you attach the camera to a **table** tripod, be sure the camera is positioned over one of the tripod's legs for proper support.

Frame your picture in the viewfinder and press the shutter button **halfway** to be sure you get the green "good picture" symbol. Then **release** the shutter button.

Slide the self-timer switch all the way **down (a)**. You now have **12 seconds** to get into your picture.

During the first **10 seconds**, the camera will beep and you will see a flashing red light **(b)** on the front of the camera.

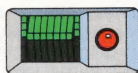
Two seconds before the camera takes the picture, the red light will stay on and the beeps will become a steady signal to remind you to hold still and smile.

After the camera has taken the picture, it will not eject the film until you slide the self-timer switch **up (c)**. **Do not close the camera** before you slide the switch **up**.

If you want to stop the 12-second countdown, slide the switch **up (c)** to turn off the timer.



a



b



c

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Photographing a distant scene through glass

To avoid focusing on the glass and getting a flash reflection, turn off the autofocus and flash systems by sliding **both** switches **down**, as shown.



When you turn off the autofocus system, the lens sets for distant scenes (15 feet to infinity), requiring the picture to be taken in a special way:

- Be sure the scene is **at least 15 feet** (4.6m) from the camera and in **daylight**.
- Frame the picture in the viewfinder and press the shutter button **halfway** (you will not see a distance reading because the autofocus system is off).
- When you see the green "good picture" symbol, take the picture.
- If you see the flashing yellow "caution" symbol and hear a warning tone, there is not enough light to take a good picture.

Important:

When you have finished taking the picture, turn on the autofocus and flash systems by sliding **both** switches **up**.



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Picture-taking tips

Color

Vibrant, bold colors are vividly reproduced on Spectra film. Look for color when framing the scene in the viewfinder. Colorful props such as toys or flowers can add interest to the scene.



Distance

You can take the most pleasing pictures of people when they are 3 to 5 feet (.9m to 1.5m) from the camera. Backgrounds become less distracting and attention focuses on your subjects.



The subject was **4 feet** (1.2m) from the camera.

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Background

Indoors: Try to have a light-colored background. Outdoors: Keep the background simple.

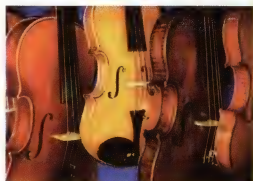


Composition

When photographing landscapes, include something in the foreground to establish a feeling of depth or dimension.



Special uses for instant photography



Have you thought about taking Polaroid Spectra photographs for:

- **Insurance pictures** — car accident claims, household goods for insurance records.
- **Remodeling projects** — before and after.
- **Do-it-yourself projects** — as you disassemble your lawnmower, take pictures to help you put it back together.
- **Halloween** — give pictures to trick-or-treaters instead of giving candy.
- **A catalogue** of work, crafts or construction projects.
- **Selling or buying antique furniture or cars** for circulation and reference.
- **Real estate** — to remember that special house.

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Troubleshooting

Blurry picture



Cause

- Camera or subject movement
- Under low-light conditions (dusk, shade) when flash is not used, the shutter can stay open for as long as 2.8 seconds. Camera movement during this time may cause blurred picture.
- Object in foreground prevented sound waves from measuring correctly. Lens focuses on object, causing unclear and possibly dark subject.
- Fingerprints on lens
- Photographer or subject moved after the shutter button was pressed halfway.

Solution

- Hold camera steady when making exposure or use steady support such as a tripod.
- The sound waves travel to the central part of the scene. Be sure there are no objects in front of your subject.
- Breathe on the lens. Wipe it gently with a clean, soft facial tissue. **Do not use silicone treated eyeglass tissues.**
- Release the shutter button and press it again to refocus at the new distance.

Background too dark



Cause

- Background was too far from subject.
- Subject may have been beyond flash range.

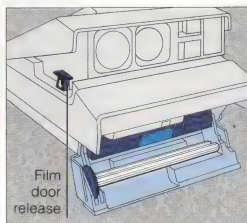
Solution

- Place subject **near** a background and keep the exposure control in the center position.
- Stay within flash range – **2 to 15 feet** (.6m to 4.6m), and keep the exposure control in the center position.

Repeated spots or bar pattern



- Developer rollers inside the film door need to be cleaned.



- Open film door in non-direct light. (do not remove film). While turning rollers, clean them with a lint-free cloth dampened with water.

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Subject too dark



Cause

- Subject in front of window/subject beyond bright source of light (such as lamp or candlelight). Camera's photocell will measure the bright light, causing subject to be too dark.

Solution

- Reposition subject away from bright background or move source of light to one side of subject so it is not in the central part of the scene.



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Picture too blue or too red/yellow

Cause

- Pictures taken at temperatures below 55°F (13°C) can have a **blue tint**.
- Pictures taken at temperatures above 95°F (35°C), can have a **red or yellow tint**.

Solution

- Keep camera and film as warm as possible. Immediately place it in a warm pocket for at least a minute being careful not to bend it.
- Keep camera and film as cool as possible. Avoid storing in hot places such as glove or luggage compartments of a car. Keep developing picture away from hot surfaces like the hood of car.

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Lens care

It is important to avoid touching the lens. Should you need to remove dust or fingerprints, breathe on the lens and wipe it gently with a clean, soft facial tissue. **Do not use silicone-treated eyeglass tissues.**

Picture care

As the picture develops, its image area is dry because the development process takes place inside the film. This allows you to stack developing pictures.

During the **first 60 seconds** of development, handle the picture gently. Fanning or bending the picture will disturb the development process. Wind can also affect development as the picture exits the camera. You can delay ejecting the picture by holding the shutter button down until you can protect the picture from the wind. Hold the developing picture by its wide white border.

At temperatures below 55°F (13°C), immediately place the developing picture (being careful not to bend it) in a warm pocket for at least a minute. Or, if you are near a warm place, hold the shutter button down to delay ejecting the picture.

Also keep the developing picture away from hot surfaces like the hood of a car.

Film care

For best results, use Spectra film when the temperature is between 55°F (13°C) and 95°F (35°C). At temperatures below 55°F (13°C), keep the camera and film as warm as possible. Above 95°F (35°C), keep the camera and film as cool as possible. Store the film below 75°F (24°C), if possible. In its sealed foil pouch, the film can be refrigerated (not frozen). Allow at least an hour for the film to reach room temperature before using it.

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Consumer Resource Center

If you have questions about your camera or pictures, or need additional information, call us toll free:

1-800-343-5000

from anywhere in the U.S.A. (For hearing impaired TDD users, call: 1-800-448-6708.) Our representatives can be reached every weekday from 8 a.m. to 8 p.m., Eastern Time. In Canada, call toll free: 1-800-268-6970. In Toronto, call 675-3680.

Or, if you prefer to write to us, the address is: Polaroid Consumer Resource Center, 784 Memorial Drive, Cambridge, Massachusetts 02139-4688. Please include a sample picture of the problem you are having with your camera.

Spectra film, by that name, is sold in the U.S.A. and Canada. Before traveling to countries outside the U.S.A. and Canada, call us toll free to learn where film for your camera is being sold.

Camera repair

If you think your camera needs repair, please call us toll free:

U.S.A.: 1-800-343-5000.

Canada: 1-800-268-6970, in Toronto, call 675-3680.

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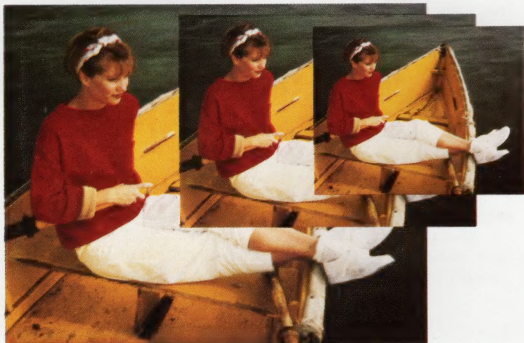
Laser prints and enlargements

Polaroid offers laser prints and enlargements of your Spectra photographs.

Using advanced laser technology, Polaroid Laser Print Service will produce borderless prints and enlargements, with superior color and detail, in these sizes: 4 x 5, 5 x 7, and 8 x 10 inches.

See your local participating dealer. Or, for your convenience, there is a mailer in every box of Spectra film and/or an order form on the back of the film cover, which is ejected when you load your camera.

If you have any questions or special requests, call us toll free: 1-800-421-1030. In California, call collect: 213-643-8093.



U.S. OFFER ONLY

Full one-year warranty

If your camera proves to be defective within the warranty period, we will, without charge, either repair it or at our option, replace it with a fully reconditioned camera.

The warranty period is **one** year from the original date of purchase. **To verify the warranty period, you should keep the sales slip or other proof of the purchase date.** Without this information, the warranty period will be determined by the manufacturing date on the camera.

The repair or replacement of your camera is guaranteed for the remaining warranty period on your original camera.

The warranty does not cover damage caused by accident, misuse, or tampering with the camera, and a charge will be made for such repairs.

For warranty service, the camera must be returned to and repaired by a Polaroid Service Center or Authorized Service Center in the U.S.A. or Canada. You can return the camera through your Polaroid camera dealer. If that is not convenient, call us toll free in the U.S.A., at 1-800-343-5000. In Canada, call toll free: 1-800-268-6970; in Toronto, call 675-3680.

U.S.A.: This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. This warranty excludes all consequential damages. Some states do not allow the exclusion of consequential damages, so the foregoing exclusion may not apply to you.

Canada: This warranty excludes all consequential damages and does not affect your statutory rights.

Camera, film specifications

Aperture/shutter system

Aperatures: from f/10 to f/45.
Shutter speeds: from 1/245 to 2.8 seconds.

Camera size

Length: 6.34 inches (16cm).
Width: 5.63 inches (14.2cm).
Height: 2.96 inches (7.6cm) closed; 3.81 inches (9.6cm) opened.

Camera weight:

1 lb. 12 1/2 oz. (.8kg), without a film pack.

Film advance:

Automatic film advance;
motorized picture ejection.

Film size:

Outer border: 4 x 4.06 inches (10.1 x 10.3cm).
Image area: 3.60 x 2.90 inches (9.1 x 7.2cm).

Film speed:

ISO 600/29 (approx.).

Film type

Polaroid Spectra color film only. Starts developing in seconds. Ten pictures per pack.

Lens:

Patented Quintic, three-element, 125mm lens system. Ten-zone focusing from 2 feet (.6m) to infinity.

Photocell:

Dual-filter, silicon photodiodes. Green filtered cell measures visible light; black filtered cell measures infrared light for better indoor flash exposures.

Power source:

A fresh, 6-volt battery in each film pack powers all camera functions.

Programmed flash:

Built-in fill flash designed to be used indoors and outdoors. Recharge time: from .1 to 2.8 seconds. Flash duration: from 1/3000 to 1/20,000 of a second. Indoor flash range: from 2 to 15 feet (.6m to 4.6m).

Self-timer:

Built-in self-timer; blinking red LED and audio signal time the 12-second countdown.

Sonar autofocus system:

Computerized autofocus system uses sound waves to accurately measure the distance to your subject and set the lens. Sonar ranging time: from 10 to 50 thousandths of a second.

Viewfinder

100% viewing (no parallax) at 6 feet (1.8m) — a popular picture-taking distance. Six lenses, two prisms, and four mirrors provide sharp, clear viewing. Viewfinder magnification: .5x (subjects appear half lifesize).

Viewfinder display

Display includes a digital readout in feet or meters and a yellow "caution" or green "good picture" symbol.